VeriTech e-Learning

Full Stack Web Development Curriculum

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Fundamentals Curriculum

Build a strong foundation in front-end development and web design with HTML and CSS. Also, learn the fundamentals of programming with Java. With hands-on practice, become proficient in the syntax, structure, and usage of these technologies and develop problem-solving skills.

Static Website Design

This course helps you build a strong foundation on web technologies such as HTML, CSS. With this, you will create and publish simple and beautiful websites from scratch.

Software Development Fundamentals

- Importance of Frontend
- Fundamentals
    - Syntax
    - Debugging
    - Tweaking Code

HTML Basics

- Getting Started
- HTML Elements
- HTML Headings
- HTML Paragraphs
- HTML Button
- HTML Attributes

- HTML Images
- HTML Hyperlinks
- HTML Containers
- HTML Lists

CSS Basics

- CSS Rulesets
- CSS Properties
- CSS Colors

- CSS Units
- CSS Box Model
- CSS Margins

- CSS Paddings
- CSS Borders

Bootstrap Components

- Carousel

- Embedding Videos

Responsive Website Design

This course helps you build a strong foundation on web technologies such as HTML, CSS, Media Queries, and Flexbox. With this, you can create a responsive web application which runs smoothly across all the devices like desktop, tablet, and mobile.

Intermediate CSS

- Block vs inline elements

- CSS Selectors

  - Class Selector
  - Id Selector
  - Type Selector
  - CSS Specificity
  - CSS Inheritance
  - CSS Cascading

Course Project

Food Munch

Build a responsive Food Munch website using HTML5, CSS3 and Bootstrap Grid System.

Bootstrap

- Bootstrap Grid System

    - Container

    - Row

    - Column

- Bootstrap Utilities

    - Display Utilities

    - Flex Utilities

    - Sizing Utilities

    - Spacing Utilities

Fundamentals With Java

You will learn the fundamental concepts of programming and gain the confidence to code in Python. You will learn to write programs and use the right data structures to solve problems and build modular software with Object-Oriented Principles.

Fundamentals of Programming

- Operators, Datatypes & Variables

- Strings & Numbers

- Conditional Statements

- Loops

- String Methods

- Functions

Introduction to Databases

Learn about the incredibly prevalent databases today. Through this course, you'll develop strong fundamentals and be proficient in concepts related to Databases and DBMS.
Most importantly, you'll also be able to perform powerful queries on databases using SQL.

Relational Databases

- Introduction

- SQL

- Aggregation, Relationships, Join

- Normalisation & Advanced SQL

- Querying

- ACID Properties

Java
Full Stack

Build a strong understanding of Java programming and web development technologies to become a Full-Stack Java Developer. Get hands-on experience with various Java frameworks for developing web applications. Create a portfolio of projects by developing end-to-end web applications using emerging frameworks.

Programming With Java

You will learn the fundamental concepts of programming and gain the confidence to code in Python. You will learn to write programs and use the right data structures to solve problems and build modular software with Object-Oriented Principles

Functions & Data Structures

- Recursion

- Lists and List Methods

- Tuples & Sequences

- Sets & Dictionaries

Object-Oriented Programming

- Classes & Objects in Python

- Attributes & Methods

- Inheritance & Polymorphism

Developer Fundamentals

You will learn the essentials of Operating Systems, Networks and use some essential developer tools like Command-Line and Git. You'll learn to version your software with Git and push your code to GitHub

Introduction to OS & Networks

- Overview of OS Concepts
- Networks & Internet
- Network Layer
- Application Layer
- Web Servers

Working with Command Line

- Files & File System
- Managing System Packages
- Environment Variables
- Network & SSH

Collaborating with Git

- VCS & Git Repositories
- Staging Area & Commits
- Working with Branches
- Issues & Pull Requests

Java Full Stack

Java Fundamentals

- Data Types, Variables & Operators

- Reading Input & Formatting Output

- Conditions & Loops

- Arrays

- Java Collections

OOP with Java

- Classes & Objects

- Attributes & Methods (Instance, Static, Class)

- Abstraction

- Inheritance

- Public, Private, Protected Scopes

- Encapsulation

- Method Overloading & Overriding

- Interfaces

- Polymorphism

- Generics & Exceptions

- Multi-threading

- Important Design Patterns

Backend with Spring Boot

- Overview of Spring Framework

- Building Java Projects with Maven/Gradle

- Building REST APIs with Spring Boot

- Consuming RESTful Web Services

- Working with Relational Data using JDBC

- JPA and Hibernate

- Uploading Files & Validating Form Inputs

- Writing Unit Tests

- Overview of Spring Batch

- Overview of Spring Integration

- Overview of Spring Cloud

- Overview of Spring AOP

Dynamic Web Applications

Introduction to JavaScript

- Data Types
- Variables
- Basic Operators
- Conditionals
- Loops
- Functions

- Arrays
- Objects
- Control Flow
- Comments
- Math Function

DOM Manipulation

- The JavaScript Console
- Introduction to the DOM
- Defining the DOM
- Select and Manipulate
- Important Selector Methods
- Manipulating Style

- Manipulating Text and Content
- Manipulating Attributes
- Local Storage

Forms

- The form element
- The label element
- The input element
- The option element
- The optgroup element
- The button element
- The select element
- The textarea element
- Form validations and Input
- Validations

Array Methods

- Adding & Removing Elements
- Push
- Unshift
- Splice
- Pop
- Shift
- Finding Elements
- Find
- IndexOf
- Concat

Events, Fetch & Callbacks

- How to add Event Listeners
- Callbacks
- Schedulers
- SetTimeout
- ClearTimeout
- SetInterval
- ClearInterval
- Hypertext Transfer Protocol (HTTP)
- HTTP Requests using Fetch
- HTTP Responses
- Working with JSON data

Intermediate JavaScript

In this course, you will learn the concepts like Events, Scope, Hoisting, this, ES6 Classes, Error handling, More about Objects and how to handle Asynchronous JavaScript

Rest parameters and spread syntax

- Destructuring Arrays

- Destructuring Objects

More Objects

- Constructor Functions

- Factory Functions

- Constructor Method

- New Keyword

This

- This In Methods

- Window Scope

- This In Function Declarations

- This In Events

Prototypes & ES6 Classes

- Built-in Constructor Functions

- Constructor Property

- Inheritance

- This In Classes

Asynchronous JS

- Async/Await

- Promises

Scope & Hoisting in JavaScript

Array Methods

- Map

- Filter

- Reduce

String Manipulations

- Trim & Split Methods

- ToUpperCase & TolowerCase Methods

- Includes Method

Intermediate Responsive Web Design

This course will help you to develop responsive layouts using CSS Flexbox
and CSS Media Queries

CSS Layouting

- CSS Flexbox
    - Display
    - Ex-direction
    - Justify-content
    - Align-items
    - Ex-wrap
    - ex- ow
    - Align-content
    - Align-self
    - Ex-grow
    - Ex-shrink
    - Order

- Sizing Elements

- Over flow

- Box Sizing
    - Content Box
    - Border Box

CSS Media Queries

- Media Query

- Media Types

- Media Features
    - Width, min-width, max-width
    - Height, min-height, max-height
    - Orientation

- Combining Multiple Media Features In A Single Media Query.
    - Logical Operators (and)
    - Logical Operators (not)
    - Logical Operators (,)

React JS - Getting Started

In this course, you will learn how to build stateful web applications with the ReactJS library. When you finish this course, you will be comfortable creating an application in ReactJS, from scratch

Introduction to React JS

- Why React?

- Stateful + Stateless components

- Hello World

- Introducing JSX

- Rendering Elements

- Components and Props

- State and Lifecycle

- Handling Events

- Conditional Rendering

- Lists and Keys

- Forms

- Composition vs Inheritance

- Thinking In React

CSS in JS

- Styled Components

- Emotion

Routing

- Query parameters

- Path parameters

Capstone Project - Build A Social Networking Web App

In this project you will be developing a Social networking web app with popular features like post, comment

Tools and Technologies used

- HTML
- CSS
- JS
- AWS
    - S3
    - Route53
    - Cloudfront

- Spring Boot
    - CRUD API
    - JPA

- Designing & Querying Relational Database

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